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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,814	06/27/2003	Hiroyasu Inoue	890050.432	7941

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EXAMINER

ANGEBRANNDT, MARTIN J

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/608,814

Applicant(s)

INOUE ET AL.

Examiner

Martin J. Angebrannt

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 21-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 21-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

1. The response of the applicant has been read and given careful consideration. Responses to the arguments of the applicant are presented after the first rejection to which they are directed. The applicant has cancelled claims 11-20 and therefore the restriction is moot. The applicant is reminded of their duty to disclosure, specifically concerning copending applications. The examiner notes the numerous applications claiming overlapping subject matter.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 21 are rejected under 35 U.S.C. 102(e) as being fully anticipated by Shuy et al., '160.

Shuy et al. '160 teaches a transparent layer of Ge, Si, GaP, InP, GaAs, InAs, ZnSb, TiO₂, Sb-Zn oxide as a transparent layer (30) in a thickness of 5-500 nm and reflective layer (40) may

be Ag, Al, Au, Pt, Cu, Sn, Ir, Ta and alloys and/or combinations thereof in a thickness of 1-500 nm. [0026-0027]. The examples use silicon and gold as the materials. In figure 1A, the provision of thermal manipulation layers (dielectric layers) is disclosed and the use of protective layers is disclosed. (60). Shuy et al. '160 further teaches in embodiment 4 that a substrate (10) with a layering sequence of ZnS-SiO₂/ Si/ (Si-Au)/(ZnS-SiO₂)₂ is formed. The recording uses 1-5 V pulses at 780 nm. The examples use 2 or 3V.

The examiner notes that the dielectric layers are the same as those used in the examples of the instant application. The position of the examiner is that at some laser power, the dielectric layer will be crystallized during the recording process. The claims do not specify the intensity of the laser required for this process and even if it did, there is no evidence on the record that the recording layers are critical to this functionality

5. Claims 1,21-26,31 and 33 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Shuy et al. '160.

It is not clear if the laser power at 2 or 3V driving voltage is sufficient to cause the crystallization of the dielectric layer. The position of the examiner is that either the crystallization occurs at these voltages and the claims are anticipated, or alternatively it would have been obvious to one skilled in the art to use higher laser voltages disclosed , including 5V, which the examiner holds would inherently cause the recited crystallization.

The applicant may have information on the power output of this laser for a specific driving voltage to settle this question of fact.

6. Claims 1-6,9-10,21-29 and 31-36 are rejected under 35 U.S.C. 102(a) as being fully anticipated by Mizushima et al., JP 2003-054135.

Mizushima et al., JP 2003-054135 teaches an optical recording medium and method of use wherein the medium has a laminated recording layer containing a first sub-recording layer and a second sub-recording layer and both of the main component metals of the recording layers have melting points which are higher than 500°C wherein the metals alloy to form a record mark (abstract). These metals are diffused to be mixed by irradiation with a laser beam wherein upon irradiation the reflectivity is changed irreversibly. The layers are indeed phase-change materials (claim 2) noting their change between amorphous to crystalline. The two layers are different metals (claim 1), and the materials substantially overlap those as claimed by the Applicants (note paragraphs 27-29). With regard to claims 9-10, Mizushima I teaches a protective layer as well as various dielectric layers (0039-0041, 0095-0101). As noted in the example (0058-0062) the first dielectric layer was made of 45 nm ZnS-SiO₂ and the recording layer contained a laminated two layer structure of Sb/Al (8 nm thick bilayer and the second dielectric was the same material as the first, but 65 nm thick [0108-0109]. However Al vs Te/Ge was also exemplified (0074). Examiner's assertion is that the same compounds will react the same way (or similarly) under the same circumstances and thus the materials of Mizushima I anticipate these irradiations. The recording powers are 3.5 and 7.0 mW as given in table 3 using a laser emitting at 405 nm [0114].

The examiner holds the position that the dielectric layers used in the embodiment of the prior art, the laser wavelength and the laser power are the same as used in working example 1, and therefore the examiner holds that the imaged media of Mizushima et al., JP 2003-054135 meet the claims to the imaged media as well as the functional language added to claims 1-6,9-10 and 21.

When the certified translation is of record and the priority perfected, the rejection will be obviated, not before.

7. Claims 1-10 and 21-36 are rejected under 35 U.S.C. 102(e) as being fully anticipated by Hosoda et al., '218.

Hosoda et al. '218 teaches a write-once optical recording medium wherein as shown in figure 2 an alloying (17) occurs between the recording layers 14a and 14b. These recording layers are sandwiched between dielectric layers 15, 13 wherein 16 is a protective layer and 11 is a substrate (3:25-43). The dielectric layers are preferably materials such as ZnS, SiO₂, ZnS-SiO₂ and the like (4:44-55). The recording layers are as detailed at the top of column 4 wherein 14a (which anticipates Applicants' second recording layer) can be Ag and 14ba (which anticipates Applicants' first recording layer) can be GeTe or Sn (see also description of figure 1, 5:47-6:35). Hosoda further teaches that it is desirable to increase the amount of Ge or Te when it is desirable to increase the amount of Ge or Te to generally slow down the crystallization rate (thereby making the amorphous state more stable). With regard to the Applicants' desirability of the ratio of $\lambda/NA \leq 640\text{nm}$ upon irradiation with a laser beam having a wavelength of λ via an objective lens having a numerical aperture NA, Examiner notes cases such as $\lambda=405\text{nm}$ and NA is 0.85 thereby anticipating λ/NA is approximately 476nm. The lower dielectric layer is 6 nm and the upper 45 nm and both are ZnS-SiO₂, the recording bilayer is 14 nm thick and the recording power is 5 mW. (5/1-33)

The examiner holds the position that the dielectric layers used in the embodiment of the prior art and the laser power are the same as used in working example 1, and therefore the

examiner holds that the imaged media of Hosoda et al. '218 meet the claims to the imaged media as well as the functional language added to claims 1-6,9-10 and 21.

When the certified translation is of record and the priority perfected, the rejection will be obviated, not before.

8. Claims 1-10 and 21-36 are rejected under 35 U.S.C. 102(a) as being fully anticipated by Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003).

Inoue teaches an inorganic write-once disc for use at low wavelength recording such as 405 nm and a numerical aperture of 0.85 (thereby satisfying the ratio) (see "Experimental Conditions", and table 1). In the example of figure 1, the bilayer is Si/Cu alloy and the device is sequentially: substrate, reflective layer, and the alloy wherein there are further dielectric layers sandwiching the recording bilayer. With regard to claims 9-10, the protective layer is a ZnS-SiO₂ layer however there is an additional cover layer shown in figure 1. The Cu alloy and the Si are mixed to become a recorded mark. The recording power used in figure 5 are 5-6 mW at 405 nm.

The examiner holds the position that the dielectric layers used in the embodiment of the prior art, the laser wavelength and the laser power are the same as used in working example 1, and therefore the examiner holds that the imaged media of Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) meet the claims to the imaged media as well as the functional language added to claims 1-10 and 21.

When the certified translation is of record and the priority perfected, the rejection will be obviated, not before.

9. Claims 1-6, 9-10, 21-29 and 36 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Kobayashi et al. JP 62-204442. An English language translation of this abstract is provided. Examiner requests that if the Applicants have a translation made of this reference that such be provided with Applicant's response.

Kobayashi et al. JP 62-204442 teaches an optical recording media comprising a recording layer consisting of at least two kinds of phase-change films having different composition wherein the first recording layer is of Si, Te, or the like and the second recording material is Au, Ag, Ge or the like. When the materials are recorded, the recording layers are alloyed. Recording layers (41, 42) are provided between dielectric layers (3, 5) wherein a protective layer (6) is opposite the substrate (2). With regard to the Applicants' capabilities of properties under specific irradiation, it is the Examiner's assertion is that the same compounds will react the same way (or similarly) under the same circumstances and thus the materials of Kobayashi anticipate these irradiations. While these properties are not specified in the English language abstract, it is further the Examiner's assertion that it would have been obvious to one of ordinary skill in the art at the time of invention to utilize the materials under near-field conditions, thereby satisfying these requirements. Examiner notes that with regard to claims 9-10 the additional dielectric layer furthest from the substrate acts as a "protective layer" as the dielectric layer can act as a barrier from damage from oxygen, mechanical contact and the like (further teaching found in example 4). The bilayer is 100 nm thick, the lower and upper dielectric layers are silicon dioxide and 100 nm thick. (example 4).

The writing power is 15 mW, which is three times higher than the 5 mW used in the instant application which is described as resulting in crystallization, so a reasonable expectation of crystallization is warranted.

10. Claims 1-6,9-10 and 21 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Lee et al., U.S. Patent No. 4,477,819 ("Lee").

Lee teaches an optical recording medium comprising an alloying of adjoining layers 14 and 16 (figure 4). Preferably the material consists of a PMMA substrate followed by a deposition of Al / Ge/ and a passivating layer of SiO₂ as shown in figure 1 (3:25-38). Similar mediums of Al/Si/MgO on a PMMA substrate (3:39-49) and Sn/Pb/Ge-Al (3:50-61) were also formed wherein the dielectric layer is light transmissible. The laser power is not described.

The position of the examiner is that at some laser power, the dielectric layer will be crystallized during the recording process. The claims do not specify the intensity of the laser required for this process and even if it did, there is no evidence on the record that the recording layers are critical to this functionality

11. Claims 1-10 and 21-30 are rejected under 35 U.S.C. 102(a) as being fully anticipated by Hayashi et al., Japanese Publication No. 2002-269808 ("Hayashi"). A machine translation of the abstract has been provided herewith and is relied upon for this rejection.

Hayashi teaches an information recording medium with alloying as shown in figures 4 and 5. In examples 3 and 5, layers of AlTe/ Gi/ SiN vs Al/Ge/SiN are taught (0028-0029). The laser power is 14 mW. The thickness of the recording bilayer is 25 nm [0028]. The use of other dielectric layers is disclosed. [0022].

The writing power is 15 mW, which is three times higher than the 5 mW used in the instant application.

When the certified translation is of record and the priority perfected, the rejection will be obviated, not before.

12. Claims 1-6, 9-10 and 21 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Harigai et al., JP 06-171236.

Harigai teaches an optical recording medium comprising an diffusion between Al or Au and Ge in a write-once alloying optical recording media. Note Example 1 (0024) wherein a polycarbonate substrate maintains a 200 nm ZnS-SiO₂, 25 nm Ge and a 30 nm Al film formed in this order. Additionally, Examiner notes example 4 being the same layers in a different order (0037). The recording power is 10 mW [0028]

The position of the examiner is that at some laser power, the dielectric layer will be crystallized during the recording process. The claims do not specify the intensity of the laser required for this process and even if it did, there is no evidence on the record that the recording layers are critical to this functionality. The location of the dielectric layer in claim 22 requires it be atop the recording bilayer.

13. Claims 1-6, 9-10, 21-29 and 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. JP 62-204442, as applied above, in view of Morimoto et al., '345.

Morimoto et al. '345 teaches that the reflective layer may be on the same side of the recording film as the substrate if topside recording is to be used and on the opposite side of the recording films from the substrate if the recording is to take place through the substrate (6:42-

65). The dielectric layers are disclosed as providing improvements in the stability and sensitivity of the overall device (7:42-8:12). The prevention of direct contact with the recording layer is further disclosed (7:1-10). The thickness of the dielectric layers may be 10 to 500 nm (7:51-8/12).

It would have been obvious to one of ordinary skill in the art at the time of invention to make the device of Kobayashi with a thinner protective layers with a reasonable expectation of success as Morimoto et al. '345 teaches that layer thicknesses of 10-500 nm would work to provide protection from damage from oxygen and mechanical contact.

The writing power is 15 mW, which is three times higher than the 5 mW used in the instant application which is described as resulting in crystallization, so a reasonable expectation of crystallization is warranted.

14. Claims 1-10,21-31,33 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuy et al. '160.

It would have been obvious to one of ordinary skill in the art at the time of invention to make the device utilizing other reflective layers or alloys of Cu, Al, Ag and/or combinations thereof in place of the Au-Si alloy of the examples (see example 4).

The rejection stands for the reasons above.

15. Claims 1-10 and 21-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuy et al. '160, in view of Morimoto et al. '345.

It would have been obvious to one of ordinary skill in the art at the time of invention to make the device of Kobayashi with a thinner protective layers with a reasonable expectation of

success as Morimoto et al. '345 teaches that layer thicknesses of 10-500 nm would work to provide protection from damage from oxygen and mechanical contact.

16. Claims 1-10 and 21-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuy et al. '160 and Morimoto et al. '345, as applied above and further in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

If it is not found that the intensity of the irradiation in Shuy et al. '160 is not sufficient to cause the crystallization in the adjacent dielectric layer, the examiner further holds that it would have been obvious to one skilled in the art to modify the combination of Shuy et al. '160 and Morimoto et al. '345 by using higher laser powers bearing in mind that the alloying is irreversible as taught in Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

17. Claims 1-10 and 21-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuy et al. '160 and Morimoto et al. '345, in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135 and further in view of any one of Yoshida et al. JP 10-143919, Uchiyama et al. '351, Lee et al. '326 or Uno et al. '239.

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Yoshida et al. JP 10-143919 (machine translation attached) teaches the addition of Al to Cu to improve the corrosion resistance [0017]. The addition of Fe, Mn, Au, Pt, Pd, Ti, Mo, Ta, Zr, V, W, etc to further improve the corrosion resistance is disclosed [0018].

Uchiyama et al. '351 teach the addition of Ag or Au to Cu reflective layers to form films with improved corrosion resistance, high reflectivity and film hardness. (5/22-6/21)

Lee et al. '326 teach the addition of various materials to improve the corrosion resistance of Al, Ag, Au or Cu reflective layers in optical recording media, such as Cr, Mg, Ti, Ni and Si. (3/41-46).

Uno et al. '239 teach the addition of various materials to improve the corrosion resistance of Ag, Au or Cu reflective layers in optical recording media, such as Cr, Pt, Pd, Al, Mg, W, Ni, Mo, Si and Ge. (9/14-23).

In addition to the basis provided above, it would have been obvious to one skilled in the art to modify the teachings of Shuy et al. '160 and Morimoto et al. '345, combined with any one of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135 away from single element reflective layers and towards binary reflective layers, such as copper alloys with Al, Si, Ag, Au, Fe, Mg, Ge, Cr or Ti to improve the stability of the unrecorded media by improving their corrosion resistance as taught by Yoshida et al. JP 10-143919, Uchiyama et al. '351, Lee et al. '326 or Uno et al. '239.

18. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is

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appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

19. Claims 1-10 and 21 of this application conflict with claims 1-46 of Application No. 10/423,686. (US 2003/0202452) 37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

No mention was made of the obviousness double patenting rejections and so they stand

20. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-46 of Application No. 10/423,686. (US 2003/0202452) in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed

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Recording” J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-46 of Application No. 10/423,686. (US 2003/0202452) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., ‘218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., “Inorganic Write-once Disc for High Speed Recording” J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

This is a provisional obviousness-type double patenting rejection.

21. Claims 1-10 and 21 of this application conflict with claims 1-44 of Application No. 10/406,109 (US 2003/0190551). 37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element (claim 2) and the additive is Al, Zn, Ag, Sn, Ti, Mg or Au (claim 7) and the first recording layer is any of Si, Ge, Sn, Mg, In, Zn, Bi or Al. Applicant is required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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22. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-44 of Application No. 10/406,109 (US 2003/0190551) in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-44 of Application No. 10/406,109 (US 2003/0190551) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

This is a provisional obviousness-type double patenting rejection.

23. Claims 1-10 and 21 of this application conflict with claims 1-19 of copending Application No. 10/764,805 (US 2004/0157158). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element and Al is the additive and the first recording layer is any of Si, Ge, Sn, Mg, In, Zn, Bi or Al. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

24. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-19 of copending

Application No. 10/764,805 (US 2004/0157158) in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-19 of copending Application No. 10/764,805 (US 2004/0157158) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

This is a provisional obviousness-type double patenting rejection.

25. Claims 1-10 and 21 of this application conflict with claims 1-12 of copending Application No. 10/896,110 (US 2005/0018591). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element and Si is the additive and the first recording layer is Si. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

26. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12 of copending Application No. 10/896,110 (US 2005/0018591) in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High

Speed Recording” J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-12 of copending Application No. 10/896,110 (US 2005/0018591) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., ‘218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., “Inorganic Write-once Disc for High Speed Recording” J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

This is a provisional obviousness-type double patenting rejection.

27. Claims 1-10 and 21 of this application conflict with claims 1-12 of copending Application No. 10/923,666 (US 2005/0047301). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element and Mg is the additive and the first recording layer is Si. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

28. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12 of copending Application No. 10/896,110 (US 2005/0018591) in view of Hosoda et al., ‘218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., “Inorganic Write-once Disc for High Speed Recording” J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-12 of copending Application No. 10/896,110 (US 2005/0018591) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

This is a provisional obviousness-type double patenting rejection.

29. Claims 1-10 and 21 of this application conflict with claims 1-19 of copending Application No. 10/923,699 (US 2005/0047306). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element and Au is the additive and the first recording layer is Si. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

30. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-19 of copending Application No. 10/923,699 (US 2005/0047306) in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-19 of copending Application No. 10/923,699 (US 2005/0047306) by using higher laser powers

bearing in mind that the alloying is irreversible as taught in either Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

This is a provisional obviousness-type double patenting rejection.

31. Claims 1-10 and 21 of this application conflict with claims 1-12 of copending Application No. 10/923,679 (US 2005/0047304). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element and Zn is the additive and the first recording layer is Si. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

32. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12 of copending Application No. 10/923,679 (US 2005/0047304) in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-12 of copending Application No. 10/923,679 (US 2005/0047304) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for

High Speed Recording” J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

This is a provisional obviousness-type double patenting rejection.

33. Claims 1-10 and 21 of this application conflict with claims 1-19 of copending Application No. 10/613,525 (US 2004/0052194). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element (claim 3) and the additive is Al, Zn, Sn, Mg or Au (claim 4) and the first recording layer is any of Si, Ge, Sn, Mg, In, Zn, Bi or Al. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

34. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-19 of copending Application No. 10/613,525 (US 2004/0052194) in view of Hosoda et al., ‘218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., “Inorganic Write-once Disc for High Speed Recording” J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-19 of copending Application No. 10/613,525 (US 2004/0052194) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., ‘218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., “Inorganic Write-once Disc for High Speed Recording” J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or

Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

This is a provisional obviousness-type double patenting rejection.

35. Claims 1-10 and 21 of this application conflict with claims 1-20 of copending Application No. 10/684981 (US 2004/0076907). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element (claim 11) and the additive is Al, Zn, Ag, Sn, Ti, Mg or Au (claim 13) and the first recording layer is any of Si, Ge, Sn, Mg, In, Zn, Bi or Al. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

36. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/684981 (US 2004/0076907) in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-20 of copending Application No. 10/684981 (US 2004/0076907) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or

Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

This is a provisional obviousness-type double patenting rejection.

37. Claims 1-10 and 21 of this application conflict with claims 1-24 of copending Application No. 10/717,831 (US 2004/0110086). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element (claim 1) and the additive is Al, Zn, Sn, Mg or Au (claim 13) and the first recording layer is any of Si, Ge, Sn, Mg, In, Zn, Bi or Al. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

38. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-24 of copending Application No. 10/717,831 (US 2004/0110086) in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-24 of copending Application No. 10/717,831 (US 2004/0110086) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061

(02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

This is a provisional obviousness-type double patenting rejection.

39. Claims 1-10 and 21 of this application conflict with claims 1-19 of copending Application No. 10/792083 (US 2004/0174804). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element (claim 1) and the additive is Al, Zn, Sn, Mg or Au (claim 13) and the first recording layer is any of Si, Ge, Sn, Mg, In, Zn, Bi or Al. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

40. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-19 of copending Application No. 10/792083 (US 2004/0174804) in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-19 of copending Application No. 10/792083 (US 2004/0174804) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061

(02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

This is a provisional obviousness-type double patenting rejection.

41. Claims 1-10 and 21 of this application conflict with claims 1-24 of copending Application No. 10/808628 (US 2004/0191685). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element (claim 1) and the additive is Al, Zn, Sn, Mg or Au (claim 13) and the first recording layer is any of Si, Ge, Sn, Mg, In, Zn, Bi or Al. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

As the issue fee has been paid, the provisional nature of this rejection may be withdrawn.

42. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-24 of copending Application No. 10/808628 (US 2004/0191685) in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-24 of copending Application No. 10/808628 (US 2004/0191685) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061

(02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

This is a provisional obviousness-type double patenting rejection.

As the issue fee has been paid, the provisional nature of this rejection may be withdrawn.

43. Claims 1-10 and 21 of this application conflict with claims 1-36 of copending Application No. 10/444172 (US 2003/0223351). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element (claim 1) and the additive is Al, Zn, Sn, Mg or Au (claim 13) and the first recording layer is any of Si, Ge, Sn, Mg, In, Zn, Bi or Al. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

44. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-36 of copending Application No. 10/444172 (US 2003/0223351) in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-36 of copending Application No. 10/444172 (US 2003/0223351) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061

(02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

This is a provisional obviousness-type double patenting rejection.

45. Claims 1-10 and 21 of this application conflict with claims 1-40 of copending Application No. 10/425571 (US 2003/0231577). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element (claim 1) and the additive is Al, Zn, Sn, Mg or Au (claim 13) and the first recording layer is any of Si, Ge, Sn, Mg, In, Zn, Bi or Al. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

As the issue fee has been paid, the provisional nature of this rejection may be withdrawn.

46. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-40 of copending Application No. 10/425571 (US 2003/0231577) in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-40 of copending Application No. 10/425571 (US 2003/0231577) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061

(02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

This is a provisional obviousness-type double patenting rejection.

47. Claims 1-10 and 21 of this application conflict with claims 1-20 of copending Application No. 10/637407 (US 2004/0027973). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element (claim 1) and the additive is Al, Zn, Sn, Mg or Au (claim 13) and the first recording layer is any of Si, Ge, Sn, Mg, In, Zn, Bi or Al. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

48. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/637407 (US 2004/0027973) in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-20 of copending Application No. 10/637407 (US 2004/0027973) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061

(02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

49. Claims 1-10 and 21 of this application conflict with claims 1-7 of copending Application No. 10/896051 (US 2005/0018590). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element (claim 1) and the additive is Al, Zn, Sn, Mg or Au (claim 13) and the first recording layer is any of Si, Ge, Sn, Mg, In, Zn, Bi or Al. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

50. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of copending Application No. 10/896051 (US 2005/0018590) in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-7 of copending Application No. 10/896051 (US 2005/0018590) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

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51. Claims 1-10 and 21 of this application conflict with claims 1-8 of copending Application No. 10/896117 (US 2005/0018592). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element (claim 1) and the additive is Al, Zn, Sn, Mg or Au (claim 13) and the first recording layer is any of Si, Ge, Sn, Mg, In, Zn, Bi or Al. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

52. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of copending Application No. 10/896117 (US 2005/0018592) in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-8 of copending Application No. 10/896117 (US 2005/0018592) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

53. Claims 1-10 and 21 of this application conflict with claims 1-8 of copending Application No. 10/923665 (US 2005/0048249). Although the conflicting claims are not identical, they are

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not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element (claim 1) and the additive is Al, Zn, Sn, Mg or Au (claim 13) and the first recording layer is any of Si, Ge, Sn, Mg, In, Zn, Bi or Al. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

54. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of copending Application No. 10/923665 (US 2005/0048249) in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims claims 1-8 of copending Application No. 10/923665 (US 2005/0048249) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

55. Claims 1-10 and 21 of this application conflict with claims 1-7 of copending Application No. 10/923674 (US 2005/0047303). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element (claim 1) and the

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additive is Al, Zn, Sn, Mg or Au (claim 13) and the first recording layer is any of Si, Ge, Sn, Mg, In, Zn, Bi or Al. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

56. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of copending Application No. 10/923674 (US 2005/0047303) in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-7 of copending Application No. 10/923674 (US 2005/0047303) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

57. Claims 1-10 and 21 of this application conflict with claims 1-8 of copending Application No. 10/923673 (US 2005/0047302). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element (claim 1) and the additive is Al, Zn, Sn, Mg or Au (claim 13) and the first recording layer is any of Si, Ge, Sn, Mg,

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In, Zn, Bi or Al. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

58. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of copending Application No. 10/923673 (US 2005/0047302) in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-8 of copending Application No. 10/923673 (US 2005/0047302) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

59. Claims 1-10 and 21 of this application conflict with claims 1-8 of copending Application No. 10/923682 (US 2005/0047305). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application overlaps with the embodiment of the instant claims where Cu is the primary element (claim 1) and the additive is Al, Zn, Sn, Mg or Au (claim 13) and the first recording layer is any of Si, Ge, Sn, Mg, In, Zn, Bi or Al. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

60. Claims 1-10 and 21-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of copending Application No. 10/923682 (US 2005/0047305) in view of Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135.

It would have been obvious to one skilled in the art to modify the invention of claims 1-8 of copending Application No. 10/923682 (US 2005/0047305) by using higher laser powers bearing in mind that the alloying is irreversible as taught in either Hosoda et al., '218, Harigai et al., JP 06-171236, Kobayashi et al. JP 62-204442, Inoue et al., "Inorganic Write-once Disc for High Speed Recording" J. Appl. Phys., Vol. 42, part 1, No. 2B pp. 1059-1061 (02/2003) or Mizushima et al., JP 2003-054135, where the powers are similar to those described in the instant specification.

61. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Oyake et al. '097, Inuoue et al. '932, Kaukiuchi et al. '58 claim similar subject matter, but do not warrant a double patenting rejection at this time.

62. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

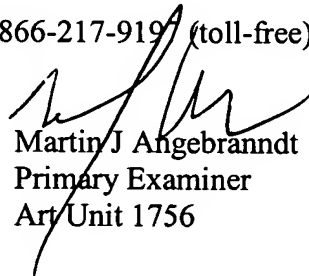
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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

63. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J. Angebrannndt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Martin J Angebrannndt
Primary Examiner
Art Unit 1756

02/01/2006